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10/670,350	09/26/2003	Hideharu Mochizuki	030712-10	5253

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EXAMINER

BROWN JR, NATHAN H

ART UNIT PAPER NUMBER

2121

DATE MAILED: 05/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/670,350	Applicant(s) MOCHIZUKI, HIDEHARU	
	Examiner Nathan H. Brown, Jr.	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Examiner's Detailed Office Action

1. This Office is responsive to the communication for application 10/670,350, filed April 7, 2006.
2. Claims 1-4 are rejected.
3. Claims 1-4 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are considered to be an abstract representation or software which do not meet the standard set forth in the *State Street Bank* case of being tangible, useful, and concrete. In this instance the claims are not considered to be tangible since no real world result is provided. An outline-processor that surrounds each program constituted from a plurality of programs by a respective frame having diagram-displays that connect the frames by a line, in the abstract, is not a real world result that has practical application.
4. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Cross II et al.* "Control Structure Diagrams for Ada 95", 1996 in view *Hendrix et al.*, "Visual Support for Incremental Abstraction and Refinement in Ada 95", 1998.

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Regarding claim 1. *Cross II et al.* teach an outline-processor (see Abstract, *Examiner interprets Control Structure Diagrams (CSD's) to be outlines.*) that surrounds each of programs constituted from plural programs by a respective frame ... (see Fig. 5, *Examiner interprets CSD box symbols to be frames.*). *Cross II et al.* does not teach an outline-processor that has diagram-displays that connect the frames by a line, wherein if the inside of the frame is clicked by mouse, a source of the program therein is outline displayed. *Hendrix et al.* do teach an outline-processor that has diagram-displays that connect the frames by a line (see Fig. 2), wherein if the inside of the frame is clicked by mouse, a source of the program therein is outline displayed (see p. 154, col. 1, "A user can select portions of code according to control structure boundaries, program module boundaries, or arbitrary boundaries, and then fold them into the single CSD symbol shown in Figure 3", *Examiner interprets "select portions of code" to mean clicking on the CSD folding symbol.*). It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine *Cross II et al.* with *Hendrix et al.* to improve the comprehension efficiency of software and, as a result, improve reliability and reduce costs during design, implementation, testing, maintenance and reengineering.

Regarding claim 2. *Cross II et al.* teach the outline-processor according to claim 1 (see above), having diagram-displays ... that display respective arguments of the programs in the vicinity of the frames ... of the programs (see Fig. 2).

Regarding claim 3. *Cross II et al.* teach the outline-processor according to claim 1 (see above). *Cross II et al.* do not teach displaying frame lines of the program thick before expansion and thin

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after expansion to change the thicknesses of the frame lines of the program before and after expansion. *Hendrix et al.* do teach displaying frame lines of the program thick before expansion (see Fig. 3, *Examiner notes the bolded frame lines of the CSD.*) and thin after expansion (see Fig. 6, *Examiner notes that the frame containing the module summary comments is not bolded.*) to change the thicknesses of the frame lines of the program before and after expansion.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Cross II et al.* in view *Beaudouin-Lafon*, “Novel Interaction Techniques for Overlapping Windows”, 2001.

Regarding claim 4. *Cross II et al.* teach the outline-processor according to claim 1 (see above). *Cross II et al.* do not teach the outline-processor according to claim 1, wherein when the plurality of programs is outline-displayed ... in a plural number, a newest outline-display ... is displayed in front. *Beaudouin-Lafon* does teach an outline-processor according to claim 1, wherein when the plurality of programs is outline-displayed ... in a plural number, a newest outline-display ... is displayed in front (see p. 153, §TABBED WINDOWS, Fig. 2, “Leafing facilitates this look-up phase: in addition to popping up the tabs while mousing over them, the corresponding pages are displayed on top.” *Examiner interprets the tabbed window to be an outline-display of a plurality of programs (one tab per program) and the page corresponding to a popped up tab to contain the source code for a program.*).

6. Examiner thanks Applicants for a succinct critique of Examiner’s grounds for rejection.

Response to Arguments

7. Applicants' arguments filed April 7, 2006 have been fully considered but they are not persuasive. With respect to those claims rejected, Applicants argue two points, the:

(A) rejection of claims 1-4 under 35 U.S.C. 101 should be withdrawn and (B) rejection of claims 1-4 under 35 U.S.C. 103(a) should be withdrawn. Examiner will show why and which rejections should be maintained with respect to the arguments presented in (A) and (B).

(A) Rejection of claims 1-4 under 35 U.S.C. 101 should be withdrawn

8. Applicants' argue that: They have amended the claims to "to further clarify the present invention" which is a "graphical interface method in an out-line-processor". While Examiner agrees that claim 1 is further clarified and that word processors and outline processors have real-world results, such as storing the results of text editing and outlining in a file in some tangible storage medium, Examiner notes that the claim is not for a word or outline processor, but a "graphical interface method". Examiner further observes that method or process claims, in computer science applications, are necessarily claims for an algorithm or software, since the computer to run the software that embodies the algorithm or method would be claimed as an article of manufacture or a machine. Currently, both algorithms and software non-statutory under 35 U.S.C. 101. Examiner therefore maintains the rejection of claim 1-4 under 35 U.S.C. 101.

(B) Rejection of claims 1-4 under 35 U.S.C. 103(a) should be withdrawn

9. Applicants' argue that:

Claims 1-4 stand rejected under 35 U.S.C. §103(a) as unpatentable over Cross II et al. ("Control Structure Diagrams for Ada 95", 1996 — hereafter Cross II) in view of Hendrix et al. ("Visual Support for Incremental Abstraction and Refinement in Ada 95", 1998 — hereafter Hendrix). Finally, claim 4 stands rejected under 35 U.S.C. §103(a) as unpatentable over Cross II in view of Beaudouin-Lafon ("Novel Interaction Techniques for Overlapping Windows", 2001 — hereafter Beaudouin-Lafon). These rejections are respectfully traversed at least for the reasons provided below.

In the rejection of claims 1-4 over Cross II and Hendrix, the Examiner interprets Control Structure Diagrams (CSD's) of Cross II to be equivalent to Applicant's "outlines" and the CSD box symbols as shown in Fig. 5 of Cross II as equivalent to Applicant's frames.

The Examiner then states that Cross II does not teach an outline-processor that has diagram displays that connect the frames by a line, wherein if the inside of a frame is clicked by a mouse, a source of the program therein is outline-displayed. The Examiner then applied Hendrix and alleges that Hendrix do teach an outline processor that has diagram-displays that connect the frames by a line as shown in Fig. 2.

In response to the Examiner's interpretation of Cross II and Hendrix, Applicant respectfully submits that neither Cross II nor Hendrix teach, disclose or suggest a graphical presentation of a program shown as a plurality of outline-display frames (101, 103, 105) connected by lines forming a hierarchical structure, as recited in amended claim 1.

Applicants respectfully invites the Examiner study Fig. 1, for example, of the Applicant's specification which shows a diagram with block 101 containing a main program on top of a hierarchical structure with two sub-programs 103 and 105 at a lower level and are connected to block 101. The features of claim 1 are supported by, e.g., Fig. 1.

In contrast with claim 1 and the illustration in Applicant's Fig. 1, Hendrix's Fig. 2 merely shows multi-level or nested loops identified by vertical lines identifying each nested level of nested loops and a CSD unit symbol identifying a routine or a functional module. That is, the source codes shown in Hendrix are made easier to read by using CSD's to label and show structural and control information for each module and to allow control structures, such as loops, to be selectively displayed by hiding or folding portions of nested loops thereby improving the readability of a long program. There is no suggestion or motivation in Hendrix for a diagram-display having a plurality of outline-display frames connected by lines in a hierarchical

structure as recited in amended claim 1.

Further, Hendrix only shows that source codes or modules of source codes are displayed or listed in a sequential manner. That is, Hendrix does not teach, disclose or suggest a hierarchical diagram of a program such as shown in Applicant's Fig. 1 or recited in claim 1 of the present invention. For example, Hendrix method does not and cannot show block or frame 105 connected to a higher level block or frame 101 as shown in Fig. 1 of Applicant's disclosure. Likewise, Hendrix does not and cannot show block or frame 103 connected to block or frame 101.

Contrary to the Examiner's assertion that Hendrix teaches lines connecting frames, it appears that Fig. 2 of Hendrix cited by the Examiner only shows lines indicating various levels in nested loops and lines, CSD box symbols and unit symbols identifying lines or blocks of source codes. Clearly, these lines of Hendrix are not equivalent to lines connecting various frames in a hierarchical structure of a program in Applicant's claimed invention. Similar observations regarding Hendrix can also be made in regard to the Cross II reference.

The arguments set forth above with respect to claim 1 are also applicable to the rejection of claims 2-4 over Cross II and Hendrix.

Examiner has reviewed Applicants' Fig. 1 and Hendrix's Fig. 2. Examiner asserts that both Applicants' diagram and Hendrix's diagram provide a graphical presentation of a program shown as a plurality of outline-display frames connected by lines forming a hierarchical structure. First, Applicants' figure and Hendrix's figure do not show the same program structure (i.e., a sub-1 and sub-2 depending from a main routine). Second, Applicants' figure combines a folded view and an un-folded view of the code while Hendrix's figure shows an un-folded view of the code. Comparing the view, common to both figures, we clearly see: (1) a program shown as a plurality of outline-display frames connected by lines, and (2) a hierarchical (i.e., multi-level or nested) structure of the code from the outer sequence to the inner most loop sequences. Examiner interprets Applicants' argument:

Hendrix's Fig. 2 merely shows multi-level or nested loops identified by vertical lines identifying each nested level of nested loops and a CSD unit symbol identifying a routine or a functional module. That is, the source codes shown in Hendrix are made easier to read by using CSD's to label and show structural and control information for each module and to allow control structures, such as loops, to be

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selectively displayed by hiding or folding portions of nested loops thereby improving the readability of a long program.

to support this conclusion.

Examiner discerns that Applicants are attempting to claim attributes of both the expanded (un-folded) view and un-expanded (folded) view of the code with the same claim language (consider the juxtaposition of expanded and unexpanded views in Applicants' figures 1 and 2). Since both views are claimed with the same language in claim 1, claim 1 is vitiated by finding commonality of claimed attributes for *either* view in the reference. Since, both Applicants and Hendrix show a: (1) program shown as a plurality of outline-display frames connected by lines and (2) hierarchical structure, Examiner maintains the rejection of claims 1-4 under 35 U.S.C. §103(a).

10. Applicants' argue that:

The arguments set forth above with respect to claim 1 are also applicable to the rejection of claims 2-4 over Cross II and Hendrix.

With respect to claim 2, neither Hendrix nor Cross II teach, disclose or suggest an argument frame displayed in vicinity of a respective frame in a displayed program hierarchical structure, as amended in claim 2. Applicant respectfully asserts that Fig. 2 of Cross does not show any box/block/frame, if the module of source code in Fig. 2 is considered as equivalent to Applicant's frame.

Examiner asserts that Fig. 2 of Cross does show an argument frame displayed in vicinity of a respective frame in a displayed program hierarchical structure. Examiner interprets the frame outlining:

```
function in_list ( args )  
return boolean is
```

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to be an argument frame (performing the same function as 204 in Applicants' Fig. 2) at the top level of the hierarchical structure of the code within the function. Examiner therefore, maintains the rejection of claims 2-4 under 35 U.S.C. §103(a).

11. Applicants' argue that:

With respect to the rejection of claim 3, the Examiner alleges that Fig. 3 of Hendrix teaches changing thickness of frame line before and after expansion. However, Fig. 3 of Hendrix merely shows an example of a CSD folding symbol, and there is no relation between Fig. 3 and Fig. 6 showing the changing in thickness of any lines.

Examiner asserts that Fig. 3 of Hendrix shows a CSD folding symbol box having a thicker upper and left sides. Examiner asserts that Fig. 6 of Hendrix shows an un-folded argument frame for some function, previously folded, as in Fig. 4 of Hendrix. Examiner therefore, maintains the rejection of claim 3 under 35 U.S.C. §103(a).

12. Applicants' argue that:

With respect to the rejection of claim 4, The arguments set forth above with respect to the rejection of claims 1-4 over Cross II and Hendrix are also applicable to the rejection of claim 4 over Cross II and Beaudouin-Lafon. Beaudouin-Lafon does not teach, disclose or suggest displaying a most recently activated expanded view of the respective outline-display frame on top of other expanded views of outline-display frames, as recited in amended claim 4. Further, Beaudouin-Lafon does not teach, disclose or suggest a graphical presentation of a program shown as a plurality of outline-display frames connected by lines forming a hierarchical structure. Hence, Beaudouin-Lafon cannot cure the deficiencies of Hendrix.

Examiner agrees that Beaudouin-Lafon does not teach, disclose or suggest displaying a most recently activated expanded view of the respective outline-display frame on top of other expanded views of outline-display frames, as recited in amended claim 4. Examiner therefore, withdraws the rejection of claim 4 under 35 U.S.C. §103(a).

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

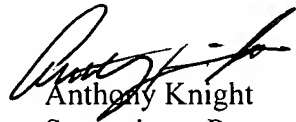
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan H. Brown, Jr. whose telephone number is 571-272- 8632. The examiner can normally be reached on M-F 0830-1700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571-272-3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained

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from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Anthony Knight", is positioned above the printed name.

Anthony Knight
Supervisory Patent Examiner
Tech Center 2100

Nathan H. Brown, Jr.
May 12, 2006